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EDITORIAL



Is the Australian Amateur Abreast with Communication Progress?

Let us first of all define what we mean by "Communication Progress" based upon general developments in the world of commercial and Amateur communications.

Receiver design,
Transmitter design,
Modulation techniques,
Pulse techniques,
Antenna design,
Propagation problems,
Television,
Instruments.

Generally speaking the nature of items published in the magazine of any organisation reflects the thoughts and interests of members. Probably because our members are Amateurs much of the good work done does not reach the pages of our magazine due in some cases to fear of criticism and in others to the "leave it to the other fellow" attitude characteristic of Australians generally; however, those subjects which have been covered in the magazine indicate that interest in new techniques is well maintained.

The nature of technical lectures given at Institute meetings and the interest taken therein is another means of gauging the technical progress of members.

Yet another way of assessing the technical standards and interests of Radio Amateurs is to listen on the bands to the ideas being exchanged thereon and the discussions which follow.

The advent of Limited A.O.C.P. gave great impetus to u.h.f. and v.h.f. activities, because it brought into the fold many men who are interested in technical progress rather than communication for the purpose of earbashing or DXing.

It is a long time since the Institute conducted a full scale exhibition, but we are confident that if such an exhibition is held the quality and modernity of Ham gear would offer visible proof of the Amateur's ability to keep abreast with new techniques, both theoretically and practically.

We are firmly convinced that at present the answer to the question posed in our title is emphatically yes, however in the future the answer will depend upon the maintenance of a steady stream of recruits to our ranks.

Realising that the best way to ensure fulfilment of our hopes is to encourage every potential Amateur into the fold not only by extending a helping hand but also by giving him or her the opportunity of obtaining practical experience.

With this in mind our Executive has assiduously pressed for issue of "Novice" licence. Our reasons are not altogether selfish, a fact that is borne out by the support we have received from the Defence Services, who realise that in an emergency the Amateur is a trained specialist capable of immediate assimilation into the communication branch.

FEDERAL EXECUTIVE.

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Propagation Studies on 3.5 and 7 Mc.

BY HANS J. ALBRECHT*

THE International Geophysical Year having commenced in July 1957, all sections of Geophysics experience a period of considerable activity. Many scientific organisations and institutions co-operate on an international basis in an enormous effort to obtain research results on geophysical phenomena. On the other hand, the huge continent in the south, Antarctica, is being investigated systematically by expeditions of many nationalities.

In ionospheric research, one of the particularly important items on the I.G.Y. programme is a thorough investigation of ionospheric propagation in all possible frequency ranges. In the case of the sporadic E-layer, for instance, observations on frequencies of the order of 50 Mc. are thought to be conclusive for research on the movement of sporadic-E clouds. In addition, data are collected on the origin of sporadic E-ionization, and its regularity and predictability, if any.

Another branch of propagation research refers to the so-called scatter propagation. A lot of work is yet to be done in this field but, nevertheless, a development of great significance appears to be ionospheric scatter communication in the v.h.f. range, admittedly somewhat expensive, but consistent and relatively dependable.

With regard to long-distance propagation on frequencies between 3 and 30 Mc., it may be said that the control-point concept of great-circle propagation is sufficiently accurate for all practical purposes. This means that the opening of a certain band to one or the other continent can be predicted with reasonable accuracy, on a monthly basis, by choosing control-points along

the great-circle path, one each approximately 1,250 miles from either end. The critical frequencies at these points, multiplied by the m.u.f. factors, then indicate two values of m.u.f., the lower of which being regarded as the m.u.f. of the path. It has been proved statistically that, for generally useful predictions, the behaviour of the ionosphere between these control-points is not of appreciable significance.

On the other hand, it is of great scientific interest to have some information on the actual path taken by the signal. A well known theory assumes multiple hops between the ionosphere and the earth's surface, although there has always been reason to believe that this concept is rather debatable.

NEW METHOD OF PATH ANALYSIS

During the last few years, the author developed a new approach to propagation analysis, based on his ionospheric observations at Box Hill, Vic., and published it in his capacity as I.G.Y. research consultant, Mediterranean Area⁽¹⁾. The new method may briefly be described as follows: "Path Attenuation" being the attenuation a signal experiences on its path along the great circle, this quantity may be measured if the actual transmitting power and the signal strength at the distant receiver are known. The amount of this path attenuation depends on the distance, on the absorption along the ionospheric path, and on losses at earth-reflection points, if any. Careful selection of operating time and frequency allow a practical elimination of effects of the second factor, the ionospheric absorption. Furthermore, the decrease in strength due to distance may be taken into account by calculations. Thus the residual path attenuation measured is

an indication of earth-reflection losses along the path.

However, the interpretation remains clear only if certain theoretical aspects are considered. Details being beyond the scope of this contribution, it may just be mentioned that the operating frequency mainly used by the author was 3.5 Mc. and a minimum distance of the order of 10,000 miles was found to be essential. The new method⁽¹⁾ may be utilised either passively (receiver only) or actively (with receiver and transmitter). With the latter method the author of course restricted himself to normal Amateur DX communication within the 3.5 Mc. band. Emphasis being laid on signal strength reports and transmitting power on both sides, a large amount of observational data was collected during the period of about three years up to 1957.

As is to be described further below, applying this method of path analysis the author found a new hypothetical theory of radio propagation, the chordal-hop theory⁽¹⁾.

AMATEUR REPORTS

As is known to all readers of the DX page at that time, reports on the times of band openings were always particularly welcome. These times served an entirely different purpose, namely the comparison with the times predicted, as has been mentioned and analysed in a previous article in this journal⁽²⁾.

Expressing once again his appreciation of the excellent co-operation of VK Amateurs, the author wishes to emphasise here, as he has done wherever possible and advisable, that serious Amateur reports are of great scientific value. This is undoubtedly the field where Amateurs are in a unique position to prove the justification of their existence in the light of international conferences on frequency distribution, etc. In all corners of our globe, one can presently find Radio Amateurs making their contributions to the I.G.Y., particularly by observing sporadic-E breakthroughs on v.h.f. and by assisting in the electronic satellite observation. Summarised and analysed accordingly, as described previously⁽³⁾, Amateur reports are, in general, a very useful basis for scientific investigations.

CHORDAL-HOP THEORY

Referring again to the new approach to path analysis, the author found that, on the average, the amount of path attenuation was identical to that determined by theoretical calculations, without the losses due to earth-reflections. It was thus concluded in⁽¹⁾ that, within reason, there is no direct proof for multiple-hop propagation between ionosphere and the earth's surface.

Looking for a theory of propagation which could replace the old multipath concept, the author calculated so-called "path diagrams" which display the behaviour of the ionosphere along the great-circle path under investigation. Thus he found that, within 600 to 1,250

*Haldenhof 7, Schramberg-Sulgen, Württemberg, West Germany.



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miles of each end of the path, there exists a more or less steep change in the height of the F₂-layer. It may be pointed out that, due to 3.5 Mc. being the operating frequency, DX communication is of course only possible when the ionisation of the other layers is so small that absorption can almost be neglected for the purpose of this path analysis. In consequence to relevant calculations, it may be assumed that, for instance for the path Eastern Australia-Western Europe at 1900 GMT, February 1954⁽³⁾, a transmission angle of the order of 5° resulted in the ray experiencing an additional upwards bending at the first ionospheric reflection point caused by the inclination in the layer. Briefly, such an inclination, in addition to a change in the refractive index along the path, results in a propagation path of the form of geometrically inscribed hops or, better, "chords" of the layer, as shown in Fig. 1. Based on certain theoretical

considerations⁽¹⁾ the chordal-hop path consists of a number of ionospheric reflections without the appropriate number of reflections at the earth's surface. In other words, the ray may be reflected along the ionospheric layer without touching the ground again before the corresponding inclination and refraction conditions cause it to be bent down at the correct distance from the receiving point.

There is every indication that this theory not only holds for frequencies near the lowest-usable-high-frequency (l.u.h.f.), as 3.5 Mc., but also for higher frequencies as long as propagation takes place via a layer. The author also found similar conditions with 7 Mc. DX communication during the same period.

In conclusion, it may be stressed that conducting this propagation research from Australia proved to be very advantageous, because propagation to two continents easily workable on

3.5 Mc., namely, North America and Western Europe, obeys representative and consistent rules under undisturbed conditions. It is very doubtful whether such experiments would have been equally successful from other points of the globe.



Fig. 1.—Principle of chordal-hop theory.
Path from A to B;
Minimum height of layer: (Sketch only, not drawn to scale.)

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BOOK REVIEW

"TV FAULT FINDING"

This book, as its name implies, is written for the person who has to find faults in t.v. sets and by means of profuse illustrations of almost every conceivable fault, does just that.

It has been assumed that the reader has a basic knowledge of television theory and practice and by means of this book he should be able to recognise the characteristics of the fault in his t.v. set, and by using the fault-finding guide and profuse illustrations, put his finger on the fault.

It must be remembered that this book deals with the English positive modulation of the picture and amplitude modulation of the sound, but nevertheless only a small amount of the fault finding data will not apply to our Australian system.

We recommend this book as a handy reference on t.v. fault finding.

Our copy from Data Publications Ltd., 57 Maids Vale, London, W9, Price 5/- sterling.

"AN INTRODUCTION TO THE CATHODE RAY OSCILLOSCOPE"

By Harley Carter, A.M.I.E.E.

This book is another of the popular Philips Technical Library series and is written for the person who has only a nodding acquaintance with oscilloscopes.

It deals with the basic construction of the cathode ray tube, following with time base circuits, saw tooth linearity, and finally with amplifiers and power supplies for the oscilloscope.

No attempt has been made at mathematical treatment, the aim being to educate in a general way.

Circuits of four complete oscilloscopes are included together with examples of practical applications of the instrument.

This book is distributed in Australia by Philip Electrical Industries, 89-73 Clarence St., Sydney. Price 12/6 Sterling.

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AMATEUR TELEVISION

PART TWO

BY E. E. CORNELIUS,* VK6EC/T

THE VIDICON CAMERA TUBE

This camera uses a standard "Vidicon" type camera tube, available from most British and American makers of camera tubes. One British firm is releasing its substandard tubes through the British Amateur Television Club, at £25 stg., F.O.B. London. These substandard tubes have minor flaws, either a few spots on the photosurface or wall screen, causing small bright spots on the picture, or an overlong storage time, causing some "smear" on fast moving objects. Mine has five tiny spots, only visible when the lens is capped. As the new price of a perfect tube is of the order of £135 stg., the discount is considerable.

The tubes are easy to get going, sturdy and stable, have no "bugs" and give excellent resolution. Resolution to 5 Mc., and 400 lines or better, with sensitivity enough to give a reasonable picture under normal room lighting with an f.2 lens. Try a movie camera under these conditions! The pictures are perfect under good lighting, and one of my lenses is still much too fast at f.14 in sunlight.

For those interested, here is the method of obtaining one of these tubes.

1. Join the club by writing to:—

British Amateur Television Club,
L. A. F. Stockley, G3EKE,
4 Norbury Court Road,
London, SW16,

requesting membership, and sending 10/- stg. for a year's membership. This also entitles you to "CQTV," an invaluable little quarterly journal.

2. Obtain an Import Licence Form A.I.L. from the Department of Customs and Excise. Fill in details:—

Category Item: 181 A1 B1;
Description: Television Camera
Tube Vidicon Type.

Unit Price: £25 stg.

F.O.B. Value: £A31/7/6.

Freight and Insurance: £A6/12/6 approx. (airfreight).

Total C.I.F. & E.: £A38.

Write a covering letter explaining that you need the tube for bona fide t.v. research, that the tube is a manufacturer's reject, and forward to your Collector of Customs. You should have no trouble obtaining the licence, and Sterling released.

3. Write to the B.A.T.C. requesting supply of the Vidicon tube, and send a draft for £25 stg. only. Keep a carbon of your letter.

4. Wait about 4 to 6 weeks, tube will arrive, and a covering air letter from B.A.T.C., indicating the exact cost of freight, etc.

5. Take original of Licence A.I.L., your letter advising despatch from B.A.T.C., and carbon of your letter ordering the tube, to the Customs for clearance. As this is more or less a private transaction, and no trader's invoice is available, you will have to explain that the B.A.T.C. as a Club is arranging, through the goodwill of the

manufacturer, to handle the British end of the deal. They require reasonable proof that the £25 stg. is the true value of the tube. Explain that the tube is not for resale, but for your own use in research, and is a reject unusable for commercial use, and no Sales Tax should be payable.

6. Collect tube from airfreight depot, beautifully packed.

7. NEVER allow the tube to be face (target) downward, as particles of cathode material, etc., may lodge on the wall screen or target, and cause spots on the picture.

The unit to be described consists of the camera proper and the viewfinder. They may be made up as separate units, with the viewfinder normally clamped to the top of the camera, but detachable if required. In a first design, the viewfinder may be omitted, but if the camera is used remotely, even a few feet away from the monitor screen, the viewfinder becomes necessary. See Fig. 5 for a block schematic.

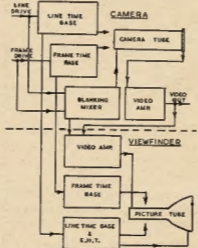


FIG. 5. CAMERA BLOCK SCHEMATIC

CAMERA

This consists basically of three parts, line time base, frame time base, and video amplifier. Line drive and frame driving pulses from the sync. generator are used in the two time bases, and the pulse trains are combined to give camera blanking. This avoids having to send composite blanking up the camera cable, saving one coaxial cable, and as the driving signals are shorter in duration than standard blanking, the picture is slightly larger than that transmitted, which of course is "cropped" later with standard blanking.

Fig. 6 shows the complete circuit, camera section at the top, and viewfinder at the bottom. Four signal leads

interconnect the two, amplified line and frame driving pulses, at high impedance, composite blanking also at high impedance, and a sample of video from the camera at low impedance. If it is anticipated that the viewfinder should be used some feet from the camera, the high impedance feeds will not do, and cathode followers interposed.

Time Bases

Two half 6SN7s, V1A and V3A act as driving pulse amplifiers, and feed high amplitude positive pulses to the two sawtooth discharge tubes, V1B and V3B. The amplified pulses also go to the viewfinder discharge tubes as outlined above. V2 is the line sawtooth current generator, feeding about 150 mA. to the vertical yoke, from the transformer. Width and linearity controls interact somewhat. A 25 ohm centre tapped potentiometer acts as a centreing control, being fed about 200 mA. of centreing current from the power supply.

V4, another 6V8, is the frame sawtooth current generator, with its output heavily damped, both at the transformer (300 ohms) and at the yoke with 2 x 750 ohms. Centreing is similar to the line circuit, but as the circuit is of higher impedance, and virtually resistive, the capacitors around the centreing potentiometer are not necessary. In each deflection coil feed a 10 ohm resistor is used for c.r.o. measurement, both of amplitude, and for some indication of linearity. The current is 100 mA. for each volt of c.r.o. deflection.

Focus Circuit

The camera tube focus coil has its focus current stabilised by a constant current pentode, which is shown at top right, and normally will be mounted in the camera control unit. Two alignment coils obtain current from this circuit, via centre tapped potentiometers, for beam alignment. Focus current will be about 40 mA.

Tube Circuit

The tube itself requires various potentials, obtained from the networks shown. The target potential potentiometer is normally in the c.c.u., giving from +10 to +60 volts, the lower the better. Overall control of beam current should be from the c.c.u. also, and the -105 volt terminal shown in the grid network will go to another beam current potentiometer in the c.c.u. As shown, electrostatic focus control is in the camera, while magnetic focus is controlled from the c.c.u. They are more or less interchangeable, and the c.c.u. should have main control.

Camera Tube Blanking

The camera tube must have blanking applied, or the retrace lines will show in all pictures. It requires 25 volts minimum positive blanking to the cathode, or 50 volts negative to grid. In this camera, the line and frame drive

*197 Wood Street, Inglewood, Western Aus.

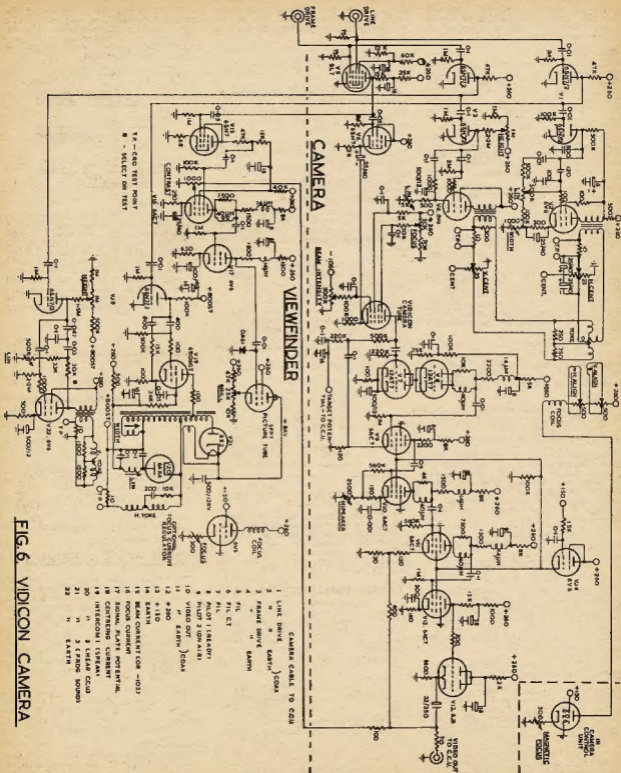


FIG. 6. YIDICON CAMERA

Amateur Radio, April, 1958

wind on 150 turns. Insert first row of pins, then 160, 150 and 160 turns on each set of pins in that order. Insert an additional 12 threads in the gaps between the pins at the corners, and tie all pins (18 in all), all knots being on the nut side of the jig.

Remove top plate (nut side), clearing the knots carefully after all pins and bolts have been taken out, and the core removed. On each side form the bulging wires to straight, and hold in place with a piece of Scotch tape in the centre of each side with the free end of the tape outside. Temporarily replace jig cheek over tapes, invert, and remove the other jig cheek. Carry the tapes around the coil on all four sides. Carefully cut all knots and remove thread, being careful not to cut the wire. During this process, the coil is very delicate to handle.

Make sure it is well shaped and flat, and dope lightly with shellac or similar. When nearly hard, form to an inside radius of 0.69" on a waxed wooden mandrel, bending the long side. Tie with thread till dry. The finished

sizes are shown in Fig. 10, but as long as the short side is under 2 1/2" it will go on the former.

Line Coils

These are wound with 165 turns each of 26 B. & S. double tough enamel. Place long waxed threads in the bottom of the slots, and wind on 26 turns. Tie at each corner, and wind on 26, tie, 26 more, tie, and finally 27 turns, and the last tie.

These coils are quite solid when removed from the jig, and after doping, are bent on the 1 1/2" side, on a mandrel to a radius of 0.53".

Fitting.—The line coils are fitted to the former exactly opposite each other, and parallel to the axis. There will be a gap of some 3/16" between adjacent edges. Tape in position with Scotch tape, connect series aiding and terminate to the tags.

The frame coils are placed over the line coils, opposite each other, and at right angles to the line coils, see Fig. 9. They are best attached to a thin paper former, which is then slipped over the

line coils. This enables the frame coils to be rotated slightly to give a truly rectangular scan, and then cemented in position. Terminate to the tags as before. Fit a thin tube of paper over the coils, dope, and the yoke is complete.

Electrical Characteristics	Frame Coils	Line Coils
Ohms per coil	80	1.8
Inductance per coil, after shaping	17 mH.	0.6 mH.
Inductance — assembled — both coils	41 mH.	1.35 mH.
Resistance — both coils	159 ohms	3.9 ohms

Alignment Coils

These are far from critical and can be wound on a jig having a core 1 1/2" x 1/2" thick, with 500 turns each of 34 B. & S. enamelled wire. Outside dimensions are about 1 1/2" x 1 1/2", and curved to a radius of 1 1/2". Four coils are required, and mounted in the form of a small yoke, on the space provided on the focus coil assembly.

Focus Coil

The assembly of the former is very similar to that of the yoke, with paper bonded bakelite tube for the former, and cheeks of Paxolin or similar. Layer wind with 6,500 turns of 32 B. & S. enamel, over a 5 thou. tubular shim brass shield, with 10 thou. shim brass end pieces inside the end cheeks. Bring out an earth lead, and focus and alignment coil connections on tags in the back cheek, as for the yoke. See Fig. 11.

The front cheek is also the target connector, and is made of Paxolin or similar turned to the dimensions shown. Two steps are counterbored in the front, to accommodate the three phosphor bronze target connections. These are screwed in place and bent into the second step to support the tube, and to make connection to the target ring. The slot in the side is cut away to admit the camera tube side pin. This pin should lie in a horizontal plane. Outside dimensions of the end cheeks are not critical, and they may be square and screwed to a mounting base to allow the whole camera tube assembly to be rocked back and forth for optical focussing. This is normal practice.

The yoke should be a smooth sliding fit inside the focus assembly permitting rotation so that the scan can be rotated for correct orientation. The axis of the line coils will be approximately horizontal.

Tube Socket

This is a special—a small button ditalar 8-pin, and are unobtainable. You may prefer to dismantle an old socket and push the tags onto the tube pins, but a satisfactory socket is shown in Fig. 12.

A ring is turned from 1" diameter bakelite, 11/32" thick, and bored 1/2" in the centre for the exhaust tip. The dimensions shown are for tags taken from a Clix socket and may need to be modified for other makes. The punch is made from a part of a hacksaw blade and serves to punch out the last 1/32" of material for tag location.

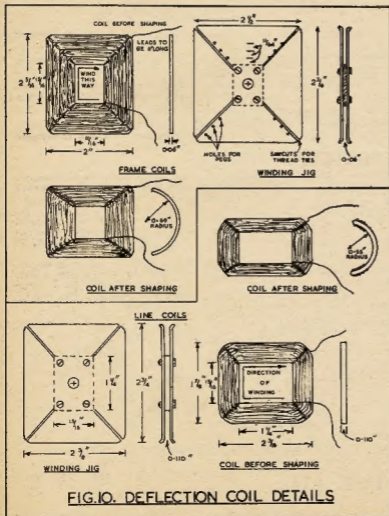


FIG. 10. DEFLECTION COIL DETAILS

MODEL "1XA" CRYSTAL MICROPHONE INSERT



AUSTRALIAN MADE — — FOR AUSTRALIAN CONDITIONS



FITTED WITH PLATED REAR SHIELD TO ELIMINATE HUM PICK-UP

- Patented crystal unit guarantees outstanding efficiency and performance.
- Protected against ingress of moisture with approved moisture sealed crystal element.
- Small — compact — lightweight — durable.
- Will not blast from close speaking.
- Precision engineering ensures realistic reproduction and high output with long life and dependable operation.

- The only unit available with a genuine sintered metal filter.
- Good high frequency response ensures excellent speech reproduction.
- Aluminium diaphragm mechanically protected and frequency controlled by "Zephyrfl" filter.
- Australian made throughout.
- Only carefully selected cements used throughout, to suit Australian climatic conditions.

TECHNICAL DETAILS

Rochelle salt crystal microphones are perhaps the most widely used for all types of service where quality speech and music reproduction at high output levels is a requirement. They are dependable in performance and when fitted with the appropriate "Zephyrfl" filter, their frequency response may be adjusted to suit any application or requirement.

This crystal microphone requires to be terminated with a high value parallel load of the order of 1 to 5 megohms for best results.

The mass of the moving parts is small, hence the sensitivity is high and a high efficiency is achieved.

Light gauge solder lugs are provided so that excessive heat in soldering will not be transmitted to the crystal element.

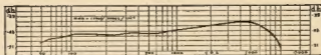
When mounted in a microphone cage, it is recommended that the insert be suspended in rubber, to eliminate shock and vibration.

One of the connecting lugs is directly connected to the case and care should be taken to solder the metal shield of the microphone cable to this solder lug, keeping the unscreened portion of the centre conductor as short as possible to eliminate hum pick-up.

All crystal elements are mounted on high grade suspension pillars, being fixed thereto with a good quality cement, thus ensuring stability and long life.

Case 1 1/2" diameter (rear), 7/8" thickness, 1-13/16" overall diameter (front) with filter fitted.

Frequency Response = 60-8,500 c.p.s.
Output Level = -45 db (0 db = 1 volt/dyne/cm²)
Impedance = Model 1XA Grid 1 — 5 megohms.



Approximate Frequency Response Curve

AVAILABLE FROM ALL LEADING TRADE HOUSES

ZEPHYR PRODUCTS PTY. LTD.

58 HIGH STREET, GLEN IRIS, S.E.6, VIC.

Phone: BL 1300

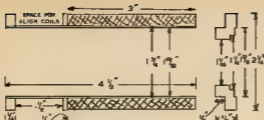
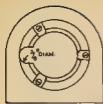


FIG. 11. FOCUS COIL ASSEMBLY

Transformers—Line

This is made using Ferroxcube, as follows.—

Core: Ferroxcube comprising—

- 2 only D36/22 IIIB1 rings
- 2 only D36/22 IIIB1 discs
- 2 only D36/22 IIIB1 9.8 mm. slugs with 2 only NK587.41 end plates and screws, and 2 only 88481 coil formers.

Wind each former with: Primary—380 turns 34 B. & S. double tough enamel; Secondary—88 turns 28 B. & S. enamel. Connect series aiding.

Frame Transformer

Core: Ex speaker transformer with 1" x 1" stack, and 1 1/2" leg length. Primary—3,300 turns 37 B. & S. enamel. Secondary—1,100 turns 32 B. & S. enamel; butt joint core.

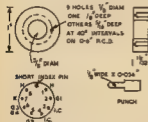


FIG. 12. SOCKET DETAILS

The Tube

I can do little better here than to summarise some of the maker's information, as it is not generally available.

General

- Heater voltage 6.3 volts
- Heater current (varies with maker) 0.35 and 0.6 amps.
- Target capacitance to all other electrodes 5 pF. approx.
- Useful photosurface . . . 16 mm. diagonal
- Focussing method magnetic (Routine adjustment of focus via G3, 4 potential)
- Operating position—any except face downward, horizontal scan parallel to side pip, and radius through short index pin.

ratings

- | | Maximum |
|---------------------------------|-------------|
| Signal plate voltage | 125 volts |
| G3, 4 voltage | 350 |
| G2 voltage | 350 |
| G1 voltage | —125 to +40 |
| Peak H-K voltage— | |
| Heater positive | 10 volts |
| Heater negative | 125 volts |
| Faceplate temperature | 40°C. |

	Typical
Signal plate voltage	+10 to +80 volts
G3, 4 voltage	+200 to +300
G2 voltage	+300
G1 voltage for picture cut-off	—45 to —100
Signal output current (normal range)	0.1 to 0.2 μA.

For data on the operation of this tube, refer to "Television Engineering," Vol. 1, by Amos & Birkinshaw—brief but adequate.

Setting Up Procedure

1. Set G1 bias control for maximum negative bias to ensure beam cut-off, and apply focussing and deflecting power and the correct tube voltages as set out under typical operation above.
2. Set signal plate potential to +20 volts.
3. Focus an optical image on the photoplayer and decrease G1 bias until a signal is produced and completely discharged by the beam. Failure to fully discharge the highlights will result in: (a) Clipping of the highlight signals, losing detail; (b) The remaining undischarged highlight signals will cause the affected areas of the target to rise toward signal plate potential. If the image is later moved, it will "smear" for several scans.

4. Alternately adjust optical focus and beam focus (G3 potential) for optimum resolution of the test image.

5. Adjust deflection amplitude and centring until the raster just does not show the edge of the target ring and the image is central.

6. If the image is weak, open the lens, or increase the target voltage.

7. Cap the lens and observe the shading signal produced by the dark current. If excessive, lower the target voltage. Note that loss of resolution will occur with a signal current lower than 0.2 μA.

8. Adjust alignment controls until the centre of the image does not move during beam focus adjustment. It will swirl around the centre, but the centre should not move.

Layout

No specific layout is recommended. Each to his own ideas. But plan to keep the tube toward the bottom of the camera in the coolest area. Allow for fitting a lens turret at some stage. The tube is designed for 16 mm. cine lenses, although one of mine is from a rifle sight. Keep the transformers away from the tube assembly, as it is susceptible to magnetic fields. Make sure the target end is well shielded

SMALL SHIP IN DISTRESS

VK7AJ Initiates Rescue

A Tasmanian Ham's alertness brought about the rescue of a luxury motor cruiser in distress off the New South Wales coast on Saturday, 18th January, 1958.

Athol Johnson, VK7AJ, of South Hobart, was listening on the small ships' frequency at about 6.15 p.m. when he picked up a very faint distress signal. He was unable to receive the name of the vessel but heard that she was three miles from some Head

He telephoned the Overseas Telecommunications Commission's coastal radio station at the Domain and a search with directive aeriels was begun, and the Navigation Department at Sydney notified.

Ships within 1,000 miles of the cruiser were alerted and a Navy crash boat from Jervis Bay was the first to her.

The freighter Watamurra, on her way from Sydney to Hobart, turned back and towed the cruiser to Jervis Bay.

from stray electrostatic fields. Mount the first video stage close to the target, as possible and shield the whole amplifier. Allow for camera tube racking up to 1" for long focus lenses.

Camera Cable

When the camera is working on test, a short cable about 12 feet long will serve, but you will soon want to take it outdoors and a long cable is essential. I use two, one 12 ft. and the other 30 ft., but there is never enough.

As soon as the camera goes out on a long cable, you will see the need for another pair of hands and this is where the club or community effort comes in again. One cannot operate camera, camera control and the transmitter under these conditions and a team of at least two is desirable.

The 5FP7 viewfinder tube has a double cascade phosphor, with short persistence blue nearest the gun, and long persistence yellow near the glass. This last means serious smear on moving objects and may be overcome by means of a light filter. Using very thin wrapping cellophane, of a very dark blue, about the colour of the blue on the newer A.W.V. tube carton, cut a piece about 1" greater in diameter than the tube face. Clean and then wet the whole tube face and dip the cellophane briefly in water. Apply to the tube as you would a transfer, smoothing out all bubbles. Remove the excess water squeezed out and carry the extra width around the end of the tube. Fasten off with scotch tape, making sure that some of the tape width is in contact with the glass. This is permanent if well done and the resulting smear is negligible. More than half the brilliance is lost, hence the use of 8 kv. on a tube designed for 5.5 kv. With the filter a good bright picture results, and no viewfinder hood is needed indoors.

In Part Three I will describe the camera control, which relieves the cameraman of the need for four arms.

1957 VK-ZL DX CONTEST RESULTS

AUSTRALIA

C.W.—					
Call	Total	40	20	15	10
VK2GW ..	3920	355	2280	860	625
2BA ..	2605		1975	630	
2AIR* ..	2350		2350		
2JX ..	1580			1015	565
2ARD ..	1430		1160	270	
2VN ..	950			950	
2HZ ..	885			885	
VK3DQ ..	3125 [†]	150	1440	1010	475
3AHQ ..	2615		1250	1070	295
3YD ..	770	770			
3RJ ..	680		135	545	
3XB ..	680			680	
VK4NL ..	1350		1350		
4DO ..	1135		1135		
VK5KU ..	1920		1920		
5MY ..	1780		875	1205	
5WO ..	1650		825	715	110
5RX ..	740		740		
VK6RU ..	4375	100	1625	1770	880
VK7UW ..	2780		1140	1640	
7KM ..	2485		280	1045	350
7LZ ..	1055		25	380	460
7NC ..	750		750		
VK9XK ..	4045	145	1460	1345	1095

* Also 18 Metres Check Log.
† Includes 80 points on 80 Metres.

PHONE—

Call	Total	40	20	15	10
VK2AO ..	1860		380	945	535
2VV ..	1370		240	1130	
2AKV ..	835		25	395	415
2AKF ..	615		50	395	170
2JX Check Log.					
VK3HL ..	825		275	550	
3LW ..	150		125	25	
3AJF ..	140		140		
VK4TN ..	2325		605	975	745
4CB ..	1005				1005
VK5WP ..	1410		405	385	620
5LC ..	1095				1095
5WO ..	1055		525	310	220
5LG ..	80			80	
VK6RU ..	2790	25	915	1465	385
VK7LZ ..	1035		290	670	75
7WA ..	720		75	645	
7NC ..	345		25	320	
VK9BW ..	303			110	195

RECEIVING SECTION—

	Phone	C.W.
VK2—D. Grantley ..	230*	1295*
VK3—E. W. Trebilcock ..		525*
VK4—C. H. Thorpe ..	1525*	
VK6—F. H. Price ..	1015*	
VK7—R. de Balfour ..	970*	
VK9—R. Clark ..		950*
P. Reid ..	225*	475

G. R. Morris—Log incorrectly set out.
* Award winners.

AWARDS (Call Areas)—

C.W.—	Points
VK2GW—W. L. Woolnough ..	3920
VK3DQ—C. S. Donoghue ..	3125
VK4NL—N. H. Lawton ..	1350
VK5KU—E. J. Von Stanke ..	1920
VK6RU—J. E. Rumble ..	4375
VK7UW—S. H. Pattison ..	2780
VK9XK—S. R. Coleston ..	4045

Phone—	Points
VK2AOU—H. F. Ruckert ..	1880
VK3HL—A. T. Hutchings ..	825
VK4TN—A. Harris ..	2325
VK5WP—A. H. Watts ..	1410
VK6RU—J. E. Rumble ..	2790
VK7LZ—C. F. Wright ..	1035
VK9BW—W. H. Holland ..	305

AWARDS (Band)—

C.W.—	Points
Metres	
80 VK3DQ—C. S. Donoghue ..	50
40 VK3YD—R. W. M. Ross ..	770
20 VK2AIR—A. J. Smith ..	2350
15 VK6RU—J. E. Rumble ..	1770
10 VK9XK—S. R. Coleston ..	1095

Phone—	Points
Metres	
40 VK6RU—J. E. Rumble ..	25
20 VK6RU—J. E. Rumble ..	915
15 VK6RU—J. E. Rumble ..	1465
10 VK5LC—L. E. Catford ..	1095

NEW ZEALAND

C.W.—	Total	40	20	15	10
Call					
ZLIAH ..	4870		2165	2020	685
1APM ..	2350			2350	
1AMM ..	1985		845	880	460
1MT ..	1610*	50	735	480	315
ZL2GS ..	3570		1495	1605	470
2ARL ..	1965	135	490	645	495
2AI ..	1790		1790		
ZL4GA ..	4085	175	3000	910	
4CK ..	2015		1820	195	
4MK ..	1080			550	330

* Includes 30 points on 11 Metres.

PHONE—

Call	Total	40	20	15	10
ZLIAH ..	325		325		

AWARDS (Call Areas)—

C.W.—	Points
ZLIAH—J. D. Wightman ..	4870
ZL2GS—H. E. H. Green ..	3570
ZL4GA—A. F. Frame ..	4085

Phone—	Points
ZL2ATZ—P. W. Hitchcock ..	325

AWARDS (Band)—

C.W.—	Points
Metres	
40 ZL4GA—A. F. Frame ..	175
20 ZL4GA—A. F. Frame ..	3090
15 ZLIAH—C. M. Rowe ..	2350
11 ZLIMT—W. A. W. Stevens ..	30
10 ZLIAH—J. D. Wightman ..	685

Phone—	Points
Metres	
20 ZL2ATZ—P. W. Hitchcock ..	325

RECEIVING SECTION—

Phone	Points
ZL149—B. Thomson ..	2445
ZL302—J. B. Holder ..	1470

OVERSEAS

* Award Winners
† Check Log

C.W.—	North America	Points
W1BIH* ..	1475	W2AWH .. 685
W1JYW ..	1255	W2SZ .. 640
W1NLM ..	505	W3VKD* .. 2010
W1PWK ..	170	W3ZAO .. 1715
W2EQS* ..	1470	W4LZE .. 1360
W2BYN ..	720	W4DS .. 655

North America (continued)		
W4WSF ..	165	W8UVZ .. 910
W4HKJ* ..	165	W8OCA .. 635
W5VHR* ..	2295	W8JXY .. 545
W5LGG ..	1700	W8TTN .. 530
W5QF ..	1510	W8KMF .. 285
K5GRT ..	280	W8FTI .. 225
W5TT* ..	2690	W8WKN .. 220
W5YMH ..	1845	W8CKK* .. 640
W8ID ..	1280	K8ALB .. 480
W8ZMX ..	1120	W8JNO .. 455
W8ATO ..	920	W8RSL* .. 1850
W8UED ..	950	W8BMM/0 .. 1590
W8YU ..	715	K8BSL .. 785
W8KNM ..	680	W8JMB .. 615
K8SXA ..	630	KL7BPK* .. 515
K8DDO ..	345	VE3HB* .. 490
K6LZI ..	345	VE3DDR .. 295
W6CLZ ..	235	VE1EK .. 110
W7PQ* ..	2245	VE3EGG .. 65
W8BHW* ..	2695	XE1PJ* .. 460
W8JIN ..	1475	XE1CM .. 220

South America

LUTAS* ..	620	PY7AN .. 520
CE3AG* ..	1200	P37QX .. 465
YV5DE* ..	520	P74AO .. 275
PY1ADA* ..	990	PJ2AE* .. 115

Europe

DL1KE ..	1750	O68RP* .. 615
DJ1BZ ..	1650	OE1HV .. 350
DL7AA ..	1525	O28SH .. 985
DL9RK ..	1185	OHANT* .. 295
DJ3JZ ..	1040	OH2HG .. 675
DL7DF ..	1030	OH1TQ .. 690
DL1LZ ..	740	OH6OG .. 445
DL3DD ..	560	OH5RO .. 385
DJ2KU ..	520	OH6PK .. 285
DL2BW ..	470	OH2GS .. 120
DL1ES ..	225	OK1NC* .. 940
DL1YA ..	225	OK2KBE .. 745
DL9BG ..	149	OK2KLI .. 465
DJ3GE ..	110	OK1MP .. 220
EA3KT* ..	345	ON4PA* .. 1210
E1FD ..	300	ON4CK .. 740
E1FT ..	110	ON4LX .. 355
F8DW* ..	285	OZ3FL* .. 1020
F8DF ..	110	OZ1W .. 525
F8BB ..	55	OZ4FF .. 400
G5RI* ..	1380	PA8TA .. 870
G3FXB ..	1355	PA0VB .. 880
G2DC ..	1205	PA0VO .. 845
G6XL ..	1195	PA0ZL .. 505
G5HZ ..	1055	PA0BW .. 480
G8AJ ..	810	PA0CF .. 185
G2AOL ..	290	PA0HP .. 55
GW3AHN* ..	695	SM3AKW* .. 1840
G1JX5* ..	335	SM7MS .. 690
H43BI ..	800	SM5KY .. 445
H88MO* ..	800	SM5CC* .. 110
H88T ..	755	SM6BDS* .. 1510
LA2Q* ..	620	SP3PL .. 470
LA6CF ..	170	SP8CK .. 470
LZ1KRF* ..	170	SP6XA .. 55

U.S.S.R.

UA3KRA* ..	690	UB5KAB* .. 745
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Asia

JA1VX* ..	1910	JA2WB .. 400
KA2MP ..	825	JA0GG .. 165
JA6TA ..	500	

Africa

CN8FD* ..	280	ZS5U* .. 400
FA3OA* ..	300	

Oceania

KH6CMM* ..	230	ZS5AL* .. 855
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(Continued on Page 12)

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North America			
	Pts.		Pts.
W2BVN*	445	K6DDO* ..	1100
W3VKD*	1000	W6ZMX	565
W4KY1*	820	W0GEX*	425
W4HKJ*	625	VE7AIH*	1530
K5JLY*	500	VE3HB	395
K5EDM	355	CO2HB*	540
W5PNG	55		

South America		
CX3BH*	635	PY7 L. J. Braga*
PYIAKT	165	395

Europe			
CT1PK*	310	OH2OV*	1290
DL1KB*	1595	OH5PE	1050
DL1FK	935	OH5NM	680
DL1UX	895	OZ5FL*	755
DJ1EZ	870	PA0FX*	625
FR8me	385	PI1J	470
F6HR	230	PA0OTC	285
F3JI	55	SM3BIZ*	370
G5HZ*	675	SM5T	250
GWSAHN*	405	SP8CK*	290
IIAMU*	900		

Africa			
CT3AN*	170	ZS5OA*	625
VE3AHU/SU*	390	ZS5RB	565

Asia			
JA1AS*	580	VU2RC*	230

RECEIVING—

C.w.—		
Austria—OE1-710 W. Flor*	640	
Czech—OK2-3947 Z. Novak*	520	
OK1-001307 W. Schon ..	405	
England—BR520317 W. E. Wilkinson*	1695	

R. F. Thomas	1380	
ERS20208 A. R. Smith ..	1270	
BR56804 E. H. Sherlock	940	
BR521248 N. S. Beckett ..	870	

Japan—JA1-1362 K. Tsukahara*	1225	
JA3-1363 K. Asano ..	1045	

Switzerland—HE9RDX E. Heritier*	615	
Nth. America—R. Fagen*	660	

Phone—		
Austria—OE9CZ C. Zangerl*	400	
OE1-710 W. Flor ..	275	
Belgium—ONL610 Miss A. R. Delvoux*	685	

Czech—OK1-007820 Z. Prosek*	235	
England—R. W. F. Thomas*	910	

Germany—F. W. Kradepohl*	525	
Netherlands—NL864 H. Frieke*	110	

Sweden—SM5-2735 K. Nystrom*	610	
Switzerland—HE9ERU H. Zimmermann*	165	

HE9ERY R. Ochsenr ..	165	
Nth. America—ISWL/K2-7079 B. Adams*	450	

HINTS AND KINKS

USEFUL OCTAL PLUG

A useful octal plug can be salvaged from burnt out metal type tubes. Remove the metal shell, then the electrode assembly. Drill and file an $\frac{1}{8}$ " hole in the top of the metal shell and insert a $\frac{1}{8}$ " x $\frac{1}{8}$ " grommet. The result is a neat, inexpensive and durable plug.

W.I.C.E.N. NOTES

The report brought back to Headquarters covering the activities in VK2 is most pleasing. The new Council is to be congratulated on its plans to extend even further the facilities at Dural. In the establishment of which the retiring Council and particularly Jim Corbin, VK3YC, laboured so hard and with such good results. Our thanks go to Jim and colleagues who wrought the miracle. We are sure events of the future will justify its existence.

Recent reports from VK4 and VK7 indicate that progress is being made in improving the status of Amateur activity in those States.

OPERATING PROCEDURE (Continued)

1.25 Each message shall be identified by its transmitted time.

1.26 The message shall consist of six parts (1) Originator's Call, (2) Message, (3) The Address, (4) The Text, (5) The Signature, and (6) the Transmitted Time.

1.27 Address. Where it is possible to make prior arrangements for the predetermined distribution by the Control Station, such distribution should be made in accordance with transmitted code address.

1.28 Acceptance of a single message intended for two or more addressees shall be permitted.

1.29 The priority accorded each message will be based upon 3.0 and the appropriate symbols shall be transmitted in the preamble.

1.30 Text. The text of messages shall be as short as practicable to convey the necessary intelligence.

1.31 Signatures. Self explanatory.

1.32 Transmitted Time. The transmitted time is the time at which the operator reaches the time group in the message form.

1.33 Communications shall commence with a call and a reply when it is desired to establish contact except that, when it is certain that the station called will receive the call, the calling station may transmit the message without waiting for a reply from the called station.

1.34 After contact has been established, continuous two-way communication shall be permitted without further identification or call (no mistake in identity is likely to occur) until termination of the contact, provided call signs are announced once in every five minutes.

1.35 When no confusion is likely to arise, a shortened form of procedure shall be permitted. For example, "Standby", "Over", "This is", "Roger" and other similar phrases may be omitted at the discretion of the operators after initial contact has been made.

1.36 An acknowledgment of receipt shall not be given until receiving operator is certain that the transmitted information has been received correctly.

1.37 When sending or receiving a message it will, when possible, be written on the official W.I.A. message form. All circumstances message should be laid out in the same style.

1.38 Alternative it may be necessary to use the message form provided by State Civil Defence Service.

1.39 When an error has been made in the transmission, the word "Correction" shall be spoken, the last correct group or phrase repeated, and then the correct version transmitted.

1.40 Items shall not be repeated, unless repetition is requested by the receiving station.

1.41 The receiving station shall always request a repetition if reception is doubtful.

1.42 If repetition of an entire message is required, the words "Say Again" shall be spoken.

1.43 If repetition of a portion is required the operator shall state: "Say again before" (first word satisfactorily received), or "Say again" . . . (word before missing portion) "in" . . . (word after missing portion), or "Say again all after" . . . (last word correctly received).

3.0 PRIORITY—

1. Messages relating to public safety and rescue work.
 2. Requests for medical aid and essential supplies.
 3. Requests for additional communication services.
 4. Messages relating to location and requirements of rescue teams.
 5. Telegrams in order of priority authorized by local Postmaster.
- Note—All messages must be initiated by person to whom authority has been delegated.

NATIONAL FIELD DAY RESULTS

AWARDS

C.w.—VK7CH, C. Harrison.
Phone—VK3ZCG, W. G. Francis.
Open—VK5LC, L. E. Catford.
Multiple—VK3LC/3AHD, A. W. H. Chandler, A. H. Downward.
Fixed—Nil entry.
Receiving—J. M. Hilliard.

LOGS

C.w.—VK7CH 48.
Phone—VK3ZCG 43, VK3ZCG 113, VK3AUC 52, VK3ADL 39.
Open—VK5LC 179, VK7LJ 50.
Multiple—VK3LC/3AHD 137, VK5MK/5QR 93, VK5EC/5AV/5KL, Check Log.
Fixed—VK5JO, Check Log, VK3PR, Check Log.
Receiving—J. M. Hilliard 23.

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MAXWELL HOWDEN
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CANTERBURY, E.7,
VICTORIA

Page 13

Annals of the Entomological Society of America, April, 1938

the real DX is running, to the detriment of others on near channels. Not very sporting, most 8 mhz work does not require that and in any case, it is not good operating practice to try and modulate beyond the capability of the final.

A word on using some more of the band than the first meg. There are a few hardy souls on 81 and a VK4 on 81.12 Mhz or was it 81.13, forget which bit of writing, but tune up there sometimes, or get a rock and go up also for we must use the few megs if we want to hold them and in any case it's less noisy there and certainly clearer of QRM of all kinds. It is really worth serious thought and action for those reasons, so give it a go.

Back to the JA break-through. On 2nd Feb. BMT, 8MK, SRO, SQR, REF, 6ZAW were all heard working the JAs on 8 mhz with some fairly decent sig reports being given too. Then again on the 18th, a further batch were worked with the band being worked at time varying between 1300 to 1330 hrs. C.S.T. daily right up to the 23rd. A real "field" month for those who could be at it. Keith BMT had his holidays during that period, so was in it daily.

On the 23rd, which seemed to be the peak here, there were JAI, JAI and JAS stations being heard at 40 over 8 mhz at my QTH unfortunately, so those who missed out on the earlier days caught up then and from "over the air" information all the 8 mhz gang have made contact with at least some of the districts, and a few with the lot. Col SRO and Keith SMT seem to have the highest score.

Ron 8MK advised that on 23rd he was hearing VK3, VK3, VK4 and a solitary JA up to midday then by 1235 another break-through occurred with JAI and JAS topping the poll for strength. In the midst of all this, a lone DU was heard calling Reg SQR on c.w., which he may have worked, but didn't hear him do it from here.

It is interesting to note that the JA boys themselves have worked the following areas this year: V, VE, VK, ZL, KW, KH, LU and KLL, and according to the latest advice here, ZL2DR from the 20th onwards has worked W and KH3 as well as VK and JA.

AKJ has some information about Test transmissions from WBYD, KXUW, and KXUW but as the figures, etc., here on them don't tie up suggest all interested contact him for details or look carefully through VK4 v.h.f. notes where it should be reported.

Sorry if we have missed 3 and 1 mhz this month, but due to above, most of the listening has been done on 8 mhz, so cannot report on those other bands this month.—SEF

WESTERN AUSTRALIA

The 144 Mc. Fox Hunt on 8th Feb. was conducted by Don 6ZAW and Roy, about 7 or 8 cars got away to a flying start right on time. Frank 6CC was in first, using an 8141 detector instead of the super-regen., followed by Don 8HK and Stan 6ZAS. The tx was hidden about 50 yds. or so from where the gang started in King's Park. Supper followed at 6ZAW's QTH, winning up another good evening's entertainment.

On Saturday afternoon, 15th Feb., members of the V.h.f. Group were shown over D.C.A. Radio Installations at Guildford Airport. The D.M.E. and marker set-up were of great interest to all and our thanks go to Ralph 6ZAO for the work put in to organise the visit and in particular the explanations of the various installations.

The V.h.f. Group meeting took place on Monday night, 24th Feb., at D.C.A. Workshops as usual. After the business side was dispensed with, a junk sale was conducted to raise funds for the Group—very successful. Dennis 6AW brought along a recording on tape and, possibly, gave the majority of members their first impressions of the American satellite transmitting on 168 Mc. Thanks Dennis, we know you have put a lot of time into gear, etc., for this occasion.

Don 6ZAK and Len 6ZAT, after much study during the last twelve months, obtained their leaving certificates, which gained for them positions as Cadet Engineers with D.C.A., and also four years at Melbourne University in Electronics. They take with them the best wishes of all Group members, and by the time this appears in print, should be well and truly settled in.—6ZAV

TASMANIA

90 Mc. hasn't been the best for sporadic-E QSOs, but this has been made up for by other unusual openings. TAB became the first VK7 to work a JA station in January, actual details not to hand, but was around midday. 7LZ and TBQ worked into VK3 for some short hop QSOs. The outstanding feature was the aurora openings between VK5, VK3, VK7, VK3 on 11th Feb.

7LZ is not in a favourable position for visual sighting of aurora, but had been reading an article and saw a bright flare in the west, so turned beam south, around 2100, to hear a garbled modulated signal which sounded like TAB. Col answered on c.w. and a contact was made, what is believed to be the first VK 50 Mc. auroral QSO. 3ALZ came up on the frequency to work 7LZ. Col then worked 3AHL, 3AHL and heard a VK5, but no contact, but TAB worked him. TBQ came on to work 3ALZ and found at that time with his beam west gave the best signal, with less noise. As signals decreased, 7LZ again worked TAB on phone to round off the evening.

144 Mc.—A sharp decline in activity resulted at the end of the Room Hall Contest. On the VK3 Field Day, 3ZCG was putting an 88 signal into Launceston, from a portable location, and worked 7LZ and TFF. It wasn't until 24th Feb. that conditions improved. 7LZ worked 3ZDD, 3ZD, 3VL and 3ZCG. Col heard a carrier for two hours before he identified and made contact with 6ZAG to make his first 2 mhz VK3 QSO. TBQ was on but was unable to make it.

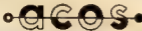
TBQ now has a 10 element long yagi which is about two S points better than the older beams. TFF may soon be operating from Devonport and hopes the location is good for v.h.f.—TFF.

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Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

S.S.B.

Editor "A.R." Dear Sir,

Referring to "A.R.", Feb. '58, the article "Mathematical Considerations of S.S.B." in the conclusion the author uses the phrase "ask yourself honestly have you ever heard an s.s.b. signal that really sounded like a.m.?" This seems to be an ever-recurring phrase, which I and others of the s.s.b. fraternity fail to understand.

What does a.m. sound like for the purposes of this comparison? Is it the a.m. signal with the 50 cycle f.m. component, the a.m. signal with speech f.m. or possibly the signal with up to 20 db. of speech clipping, or even the hi-fi addit with 20 Kc. bandwidth? Is it the signal with 10% or 100% modulation? Is it the signal whose frequency sweeps 10 Kc. in 10 minutes or the one that jumps 1 or 2 Kc. every so often?

May I suggest that anybody in this day and age who still believes that s.s.b. does not sound like a.m. (an odious comparison) should visit some of his friends or acquaintances who have a receiver selective and stable enough to receive s.s.b. properly, and have a good listen to s.s.b., including the good bad and ugly signals, all of which vary in industry according to the resources and technical or operating ability of the individuals concerned.

Then may I further suggest that on the same receiver they listen to a.m. signals on "Exalted Carrier Reception."

But afterwards please don't say "a.m. does not sound as good as s.s.b."

I bet 35 years ago somebody said, "You know this new fangled c.w. isn't so good to copy as good old spark."

C. B. Edmonds, VK3AEZ.

OBLIQUE STROKE F.O.C.

Two further letters from Mr. W. H. Windle (G8VG) (Chairman F.O.C., and Mr. Roth Jones (VK3BG) have been received. It is considered this matter has been covered and no useful purpose can be served by publication of further correspondence. The subject is now closed.—Editor.

Phyl Moncur
235 Union Road
Acute Vale, Vic.

more of a rectangle." This floored me. "What!" I exclaimed. "Why that's worse. How would you like your chassis to be rectangular with valves to party on the top and the chassis to take a flt. That's the only way to describe the peculiar motions he went through in the next few seconds. Coupled with mutterings of "Oh no, oh no." The acute was quite alarming. One good thing came out of it though. I don't have to read the book any more.

This radio craze pervades your whole life once it catches your man. Take my last afternoon for instance. Talked to a confederate, longed to Mrs. Black, a very proper lady, about the noisy neighbors next door, who she says ought to be banished from the world altogether. I am rudely interrupted. "VK such and such, here, Mac," bellows a lusty male voice as the OM twiddles the dial. Mrs. Black smiles but then, in a quiet whisper comes the next instalment from Dis OM's session, as one of the "boys" gives someone else certain information in some foreign language, which the OM seems to understand.

One minute am shouting above the din, the next, I am whispering. At times I find my shouts coinciding with their whippers. No wonder I am a bit of a nut. I have a few readers, I have just bought the OM some fishing gear

(3) Marathon Contest. This contest will run for a period of a year, commencing on 31st April and continuing till 31st March, '59. It includes reception of broadcast, short wave broadcast, and Amateur stations. Keep your QSL cards carefully until the year is finished and after that time submit them to the Group organising committee for judging. The contest is open to all A.S.W.s throughout Australia, although a nominal fee of 2/6 will be charged to any entrant who is not a member of the Wireless Institute of Australia or an affiliated club.

A multiplier in the form of the number of QSLs submitted is multiplied by the number of countries represented by the QSLs will be applied to all cards confirming reception of stations below the frequency occupied by the "Red Channel." For each station above this frequency the same rule will apply with the addition of a multiplier of two for reception of stations v.h.f. over a distance of 10 miles and up to 100 miles, a multiplier of three for such stations from 100 to 1,000 miles distant and a multiplier of four for stations received from a distance of over 1,000 miles. So you can see that no matter what type of listening you do you can still enter and to contest. However, you must remember that if you are forwarding QSLs through the post you must include return postage on the cards that applies to all of these contests.

Visit to VK3OM—On Wednesday evening, 12th March, seven members of the Group journeyed to Glen Waverley to visit 3OM, owned and operated by Ron Fisher. The evening enjoyed by all, and the Group was very pleased to see Ron and his good wife, Lynnette, spared no effort to ensure that everyone had a good time. George IACOM had brought along his double conversion BCX which was set up together with an ARS in a room adjoining the shack. He kept the boys busy tuning around in the evening while each member took his turn at conducting a QSO from 3OM. Ron's home-built 80 through 10 m.c.w. which was built by him, was on display at 614Kc in the final, is truly a masterpiece of craftsmanship. His 8X42 rx is a delight to handle.

After working many stations, a lavish supper was served and Lynnette must have worked very hard to prepare all the good things. It was most enjoyable. We would like to express our sincere thanks to Ron and Lynnette for arranging such a wonderful evening and to George for coming along and showing his interest in the Group.

The Group intends to hold more visits of this kind in the near future. Those who are interested come along to our meetings and find out all about it. We meet at the Institute Rooms, 701 Collins St. place, on the last Tuesday of each month at 8 p.m.

Phyl Moncur, VK3OM, was the guest speaker at the last meeting.

"Chassis" Little James—I read as I turned a page, according to plan. What a chassis! All I could think was that Little James was some boy with all that stuff in his chassis. I felt quite lost, therefore ventured to ask the OM a few questions. This chassis certainly looks interesting but began.

"This chassis, I felt, was a little sudden and a bit harsh, too, but, being a dutiful XVI, I complied with his wishes. The OM smiled while, embraced his multi-axon relic and prepared to tune in to the "boys". "Chassis" Little James—I read as I turned a page, according to plan. What a chassis! All I could think was that Little James was some boy with all that stuff in his chassis. I felt quite lost, therefore ventured to ask the OM a few questions. This chassis certainly looks interesting but began.

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The OM seemed a bit puzzled. "Well, it's not exactly square, you know," he said, "It's

lan J. Hunt, WIA-13007
211 St. George Road,
Northcote, N.16, Vic.

How about giving a fellow a go and dropping me a line telling me of YOUR doubts and thus give me something to write about. If some of you don't provide me with something as a basis for these notes, I am sure that I will be long before there will be no s.w.l. notes at all in the magazine.

E.W.L. George.—During the past several months I have noted comments indicating that there has been a little interest in the organization of s.w.l. Groups in other States besides VK3, VK6, VK1 and VK2. However, apparently nothing much has come of it. I have not received any news from VK6 or VK9 for quite some time so how about those Groups coming to light with some news. I also feel that most of our readers would be very interested in hearing how the plans of other States are progressing with regard to Groups. Can't somebody write and tell us please?

I have received a letter from Eric Hardwick, of 28 Stazley Road, Rivervale, Perth, Western Australia, who is a member of the Group, known as the "Short Wave Group of W.A." has been formed. This Group, which consists of initially 11 members, I believe, seeking affiliation with the Western Australian Division of the Institute, and we all hope that they will be successful in their efforts along these lines. The Group has appointed Peter a President and Secretary, namely Eric as President and his XVI, Ross, as Secretary, for the time being. I trust that they will be able to keep each other up to the mark and thus provide plenty of action within the ranks of the Group and plenty of news for the Group every session in their activities. Any of you W.A. s.w.l.s who are interested in this Group might contact Eric at the above address.

Group News.—The only Group news this month comes from the VK3 Division. Our members list was increased by two members present including a new member, Ted Wickett of Niddrie, which is the uninitiated in the same line as the other members. I hope you Ted, and we hope you will continue to honour us with your presence. Amongst the absentees this month were the members of John Campbell of the VK5 Division Group and also Angelo Harris who we haven't seen for some time.

It was also reported that the Group President, Len Poynter, and Secretary have at last begun the A.O.C.P. course. It looks like at the next election group of office-bearers there will be vacancies in these positions. Let's hope the exams are not too stiff anyway. After a discussion of contests to be run at the meeting closed and members began their usual after-meeting car-bash session.

Contests.—As a result of the February meeting the Group has decided to run the following Contests.

(1) Card of the Month Contest. To enter this contest, it will be necessary for you to forward to the organizing Secretary of the Group any QSL card or cards you have received during the past month. The card will be judged by the organizing committee and the best card for the month chosen. The appearance of the card, location of the station and the name of the operator will not be considered by the committee to be unusual or of special interest will all be considered. The winner of this contest will receive a prize and receive any special award, but his name and any other interesting details about him will be noted in the notes each month.

(2) DX Ladder. This contest will also run continuously. To enter you must forward to the organizing committee a list of the stations received from any overseas stations during the past-war period. The contest will be divided into two sections, namely, Amateur, and Short Wave Broadcast, to cover QSLs received from S.W. Broadcast Stations. Each card confirms reception of a station is 1 point. No award will be issued for this contest, but a list will be published in these notes from time to time. The list will consist of each contestant on the ladder in a similar manner to the DXCC list for transmitting stations. If necessary, the contest will be extended. The contest, EKERISS, WIA-13042, decides to enter!

NOTES

FEDERAL

RE-ISSUE OF CALL SIGNS

A Divisional enquiry was recently received by Federal Executive concerning F.M.G. policy governing the re-issue of call signs.

For the information of members on this question, the following decision is published from a letter dated 20th October, 1952, from the Acting Director-General, Posts & Telegraphs.

"It is the present practice, when licences are surrendered, to reserve the station call sign in the name of the licensee for a period of twelve months. This Department is prepared, however, to arrange that—

(a) Where licences are relinquished because of the death of the licensee, call signs shall not be re-allocated for a period of five years unless to a member of the family of the deceased, and

(b) Call signs relinquished for other reasons will not be re-issued except to the previous holder for a period of two years.

These reservations will be conditional on submission of an appropriate application in each case.

"A former licensee seeking the re-issue of a licence after inactivity extending beyond the aforesaid period of two years will be granted the use of his previous call sign if still available, and a licensee who changes his place of residence from one State to another will, on request, be allocated the same call letters in his call sign if they have not been assigned to another station. This is the general practice in all conditions."

"It is agreed that the periods mentioned above shall not include periods during which Amateur activity is banned other than for breaches of licence conditions."

PULSE MODULATION PERMITTED ABOVE

288 Mc.

Following negotiations between Federal Executive and the W.I.A. and the Controller, Radio Branch, the Postmaster-General's Department has announced that pulse-modulated transmissions will be permitted in all Amateur frequency bands above 288 Mc.

The Department stipulates that the length of each pulse and the nature of the emitted wave-shape shall be such as to restrict the radiated sidebands within the limits of the Amateur frequency band in which the transmission is taking place.

log to R.E.P. B.P. 42-61, Paris R.P., France. These copies are valid for ulterior application for any French award without any need to forward the corresponding QSL.

It is stated that Austine, VK3YL, has received her QSL from J.T. Berg, F.E.O.N. her W.A.Z., which could be the first W.A.Z. ever to be issued to a YL.

P.A.C.C. Contest: This contest will be a help to obtaining the P.C.C. certificate. All Amateurs will try to work as many FA stations as possible. Contest periods: C.W.—last weekend of April, and first weekend of May. Both weekends from 1300 GMT Saturday to 2400 GMT Sunday. Logs must be mailed not later than June 15 to J.T. Berg, F.E.O.N. Contest Manager, Keizerstraat 34, Gouda, Netherlands.

WCTO will be in Vermont from May 20 to June 1, inclusive, using WCTO/VF, Vermont, along with K2BU/1. They will be using c.w. on 1410 and 1410 Kc. and s.b. on 1470 Kc. Here's a good opportunity to secure that elusive State for W.A.S. All contacts will be confirmed.

Cards have been sighted from SV0WQ, Stewart Faxon (W6GHH, DLAAAP) operated SV0WQ on Creta for a short period and managed to pile up a large number of contacts with a 300 watt rig and a Gelco 3UT receiver.

The following par from the January issue of the "Telegraph Chronicle" (P.M.G.), shows the potentialities of modern communication methods: "An outstanding feat was performed on 29th Nov. '51, by Mr. A. H. Collier, a Telegraphist attached to the Chief Telegraph Office, Melbourne, when between 11 a.m. and noon on that day he transmitted a total of 156 telegrams to Sydney by teleprinter. This total, representing 7400 words, was received by teletype and a Gelco 3UT receiver, be teleprint and endorse transmission particulars at an average rate of 2.6 telegrams per minute throughout the hour. So far as can be established, this total is the highest hourly output ever achieved by direct teleprinter keyboard transmission."

—Ray Jones, VK1RJ, Manager.

NEW SOUTH WALES

The monthly meeting of the New South Wales Division was held on Feb. 28 at Science House, Gloucester St., Sydney. As is usual for this meeting each year, the lecture was on v.h.f. The lecturer was Mr John Lark, VK1ZAV, a member of the Divisional V.h.f. and T. Group, who gave a very good introduction to v.h.f. techniques and described how to go about designing and constructing converters, transmitters and antennae for the 144 Mc band. There was also a display of v.h.f. equipment comprising g.d.o.s, converters, complete receivers, various types of transmitters and a 4-element beam.

A vote of thanks was moved by Bill 27B for an interesting and informative lecture. During the business side of the meeting the President, Victor Healy, SAQX, suggested that the fund, to enable a representative to be sent to the I.T.U. Conference at Geneva in 1959, be opened in the Division and given a number of members were remitting an additional £1 with their subscriptions. After a short discussion, Council was given approval to open such an account. Other business transacted was the voting on various items arising from the Federal Convention held last Easter. These items included

the interchange of members between Divisions, the purchase of a typewriter by the Federal Contest Committee, and that a Federal Convention be held in Melbourne in 1959. These points were agreed to by the majority of those present.

Following the agreement at the meeting for the sponsor to bear the very large expenses by the Divisional President during the Sunday broadcast from VK1AI on March 3, pointing out how necessary it was for all Amateurs whether they belonged to the Institute or not to contribute. As the Wireless Institute is the official recognised Amateur body, such moves which would have to be made would be through the Institute.

Already donations had been received and the Associate members were doing their part in subscribing to the fund.

It was also suggested that an effort be made to have all donations passed in by the beginning of July.

VICTORIA

At the last meeting on 8th March we were privileged to hear a very interesting lecture from Mr Eric Anderson (3K8H) on the communications side of the Department of Civil Aviation activities.

Eric is a very competent and knowledgeable lecturer and every word was followed with rapt attention. He set out to explain to us what D.C. does in the communications field and how it does it and many eyes were opened at the ramifications of their activities.

In the first place, except for a very small area in Western Australia, the Department has a network of stations scattered throughout the mainland of Australia and adjacent islands which with a multiplicity of transmitters and receivers and what seems to be hordes of frequencies enable them to provide a 24-hour seven-day-a-week service between stations and stations and planes.

Naturally, this service is most exacting, considering what is at stake and in order to obtain the different grades of service required at the various locations, equipment is duplicated and sometimes triplicated to meet the requirements.

D.X.C.C. LISTING

Listed below are the highest twelve members in each section. New members and those who have been amended will also be shown.

PHONE

Call No. rises	Coll No. rises	Car. Call No. rises	Car. Call No. rises
VK3WL	14 211	VK1VE	10 103
VK3ATN	36 204	VK1DE	31 281
VK3W	12 188	VK1DE	18 188
VK1R	2 194	VK1R	23 187
VK4HR	12 192	VK1J	1 128
VK3SZ	3 158	VK4KX	9 105

C.W.

Call No. rises	Coll No. rises	Car. Call No. rises	Car. Call No. rises
VK3KJ	10 235	VK3KJ	46 313
VK4PJ	28 234	VK3BY	45 202
VK3PJ	28 234	VK3BY	12 219
VK3KJ	56 228	VK3BY	9 218
VK3BZ	6 232	VK1R	39 180
VK4HR	8 218	VK3KX	23 176

Amateurs

VK3KX 41 194

OPEN

Call No. rises	Coll No. rises	Car. Call No. rises	Car. Call No. rises
VK3ACK	6 260	VK3ATN	81 221
VK3PJ	28 234	VK3BY	12 219
VK4HR	7 233	VK3ATN	69 210
VK3PJ	4 231	VK3BY	9 201
VK3KJ	10 235	VK3BY	12 219
VK3R	6 224	VK3BY	39 180

Amateurs

VK3KX 44 190 VK3BG 68 130

New Members

VK1AFA 70 102

FEDERAL QSL BUREAU

Cards handled by the Federal Bureau for the year ended February 1953 totalled 45,000. The 1952 figure was 45,000 for the previous year.

The 1953 French Contest is scheduled for phone from 1st March, 1300 GMT to 2nd, 1400 and for c.w. from April 13 to 14, same times GMT. This is an opportunity for working French Departments (I.S.F.M.), French Provinces (D.P.F.), and French Union Countries (D.U.F.). Code is RST (c.w.) or R8 (phone), followed by the number of the QSO (e.g. 27014). A French station identifies its department by figures, or its country by letters, which are sent after the call when the prefix alone is not sufficient for identification: e.g. F2CU/78 for Department Seine-et-Oise and province Ile-de-France, FARG/OR for QSO in Algeria, F2AGAC for Moyen-Congo, in French Equatorial Africa, Polaris 3 per OSN. Multiplier the sum of all departments and French Union countries worked on all bands. Score Total points for all QSOs multiplied by the multiplier. Send a copy of the station

CONTEST CALENDAR

Compiled by W.I.A. Fed. Contest Com.

★

W.A.E.D.C. 1953—

Phone Dates: 1800 GMT, 4th April, to 2400 GMT, 8th April.
Bands 14, 21 and 28 Mc

R.E.P. 1953 (c.w.)—

Dates 12th and 12th April

VK-ZL DX 1953—

1st and 2nd Week-End October

K.D. CONTEST—

Dates: Saturday, 18th August, 1800 hrs. E.A.S.T.; Sunday, 17th August, 1759 hrs E.A.S.T.

The most remarkable thing of all, however, is that all the stations operated are remotely controlled due to the inaccessibility of most locations. Apparently the only thing they can't do remotely with the equipment is to walk it up and down the racks. Every other function is controllable.

Both the v.h.f. and h.f. spectrums are used throughout the service, the former for distances up to 100 miles from the airfield, and the latter up to 250 miles and greater. International aircraft are often picked up, of course, over very great distances on the h.f. band.

As is to be expected international control exists for this type of radio communication and it is interesting to note that amplitude modulation is the order of the day for all equipment due to technical difficulties which would be introduced by the more modern varieties now in use.

It was not surprising to find that aerials occupied quite a prominent position in Eric's lecture and we gained some very interesting information on dipoles, rhombics, yagis and other types of antennae, together with the transmission lines which feed them. In this connection, it was very interesting to learn that where a number of antennae are required, provided they are within plus or minus 10% of the fundamental or harmonic frequency of their neighbours, they may be stacked one above the other without appreciable loss of performance. This should prove to be a handy piece of information for those who need a cheap antenna farm.

A wealth of equally interesting and informative information was provided by the lecturer and some most enlightening supporting data was shown on slides, including some very good slides of what is obviously a showpiece station situated above the snowline in Tasmania. Suffice to say that the lecture was very much appreciated. It was a pity that more of the members did not avail themselves of the opportunity to learn of these activities.

From the tone of the questions fired at the lecturer it was easy to see that the boys are preparing to put some of the excellent subject matter to work in their own spheres of activity.

George Glover moved a motion of thanks which was carried most heartily. The indications are that we will be seeking more information on D.C.A. activities by further lectures in the future.

There were no new members listed for admission at this meeting, but we were pleased to welcome Len 1ALR and Col 7JZ as visitors. If Col hasn't already done so, it is expected that he will be making arrangements to see that D.C.A. station in his own State.

An appeal was made to the meeting by the Penal Department for four or more members of the Institute to volunteer to give radio instruction to selected prisoners at Pentridge. There is no remuneration except perhaps fares on public transport. Anyone interested should get in touch with the Chief Training Officer of the Penal Department. The hours of training are between 8.30 and 8.50 p.m. and quite good facilities for training are believed to be available.

Rumour has it that another handout is being arranged, but more of that later when details have been sorted out.

The S.W.L. Group reports that on 13th of this month (April) at 2.30 p.m. they will be visiting the Army Transmitting Station at Diggers Rest. Intending visitors should get in touch with Mrs. May at the rooms of Ian Hunt. Numbers are limited and preference will have to be given to members of the group, but don't let that deter others from applying as there is expected to be room for all interested.

Don't forget the Annual General Meeting to be held on 3rd April.

LATEST NEWS

Only seven turned up at the last monthly meeting on Friday night, 28th Feb., at David's QTH, 30Y at Maffra. We have two more successful candidates, L. Russell, of Yallourn, and P. Miles, of Sale, who are awaiting their call signs. Congratulations to you both.

Hope everybody had a very enjoyable time at our Convention last month. A full report of the Convention will be made in May's issue.

LOCAL MEETING INFO

The Zone has been fairly busy organising the Convention. Chris 3AKU and Gordon 3AGV have helped in every way possible but many who could have given a lot of assistance did not make themselves available. Be in it cheap and spread the work. Gordon 3AGV hopes to be able to devote a little more time to Ham Radio from now on.

I am afraid the green-eyed monster has got most of the chaps by the short wool, but for how long? Whilst on television, if there is anyone interested in Amateur Television, contact BU 2BU who will be only too glad to tell you all about it.

GEELONG AMATEUR RADIO CLUB

A Most successful Marathon Tx Hunt was held recently at Werribee. A good crowd attended and the results were as follows: Hunt No. 1—Len 3LN and family, 1st; Laurie 3ALY and Bert Stebbins, 2nd; 3ZEN, 3rd. Hunt No. 2—3LN, 1st, 3ZBU and Ray Price, 2nd. 3ZEN, Phil Endick and Bert Stebbins, 3rd. Hunt No. 3—3ZIW, 1st, 3AJ, 2nd, 3ALY, 3rd. Hunt No. 4 (Fox Hunt)—Ray Price and 3ALY tie for 1st place.

The Geelong lads, who hid the tx's are to be congratulated—Dick 3ABK, Peter 3ZAV and Fred 3ALG. Also Alf 3AJF, Jim 3ABT and Rodney Ellis.

Bob 3IC did a fine job as liaison officer whilst Chas 3XN is to be thanked for loan of equipment.

Because most Geelong members were engaged in hiding the gear, only one participant, Bill 3BU, was a hound. Other members of the club were noticeable by their absence, but their excuse was "preparation for Warrnambool Convention".

Club members recently visited the shack of Len 3LN and 3XVL and were regaled with all facets of electronics. The wide array of Amateur equipment in his new shack was beautifully designed. It shows that care and skill can produce equipment comparable with commercially made gear. A list of items needed would be insufficient here, but among interesting highlights were Amateur tx and a "super" receiver. Later there was a hi-fi demonstration, then some excellent films—a good one of 3LN's Junior on skates, and then to rejuvenate us for the road a fine repeat was served. The President, Jim 3ABT, thanked the host and hosts and we are looking forward to the next visit in 1959—hoping however we can reciprocate some in Geelong.

Wedding bells are the order of the day and we must congratulate Keith Wines and Kevin Mills on their recent marriages.

There is renewed activity in Geelong on 2 mhz and 3ABK, 3BU, 3ALG and 3XN are newcomers operating frequently.

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MOORABBIN AND DISTRICT RADIO CLUB

The last general meeting of the club was held on 1st Feb., when club member Wilson, captain, recently returned from an overseas tour, gave a very interesting lecture on Transistor systems in use in Britain, France, America, and several other European countries, with particular reference to the development of twelve coloured receivers in action, and a few slides illustrating various types of transistor receivers, including several of the Tower. The lively question and discussion which followed showed how well the talk was appreciated by the good attendance of members present. Once again, Milton, thanks.

The Natter Theatre club hook-up on 28th Feb. was not so well supported, and members will have to give more support if they wish this function to continue. Better success was scored with the Natter Night on 7th March, when an enjoyable evening was spent with JAPC on two metres. Contacts could have continued for quite a time after we decided to shut down the station, but the station was contacted again, and look for us again the first Friday of each month.

We have pleasure in recording the arrival of a first harmonic at the home of Peter 3APD. Congratulations Peter and Mary, and we hope to hear a junior on on the mike soon!

QUEENSLAND

With the Easter week-end just around the corner, the retiring Council has instigated proceedings which, it hopes, will provide encouragement to members and friends and renew the enthusiasms required to make our 1966 Ham Festival an even bigger success than the previous year. It is much easier to organize even "a simple outing," but the success of any such venture remains with members themselves and the degree of loyalty shown by the boys and their families and friends enjoy themselves quite as much as did that happy group at the recent barbecue at Cass's.

In the beginning, Vince and I were reminded us at the beginning of the two very successful bars. Because the boys were in the late Palm Beach. [Laughter] We thought that in addition to this, we could give some of the boys an opportunity to secure some practice in blind-fold to hunters. And perhaps a hidden to event with the five, and the boys were spiking waving at the Uniformed. I didn't see the numbers. I was waving with car loads of gear and the evening program was altered to suit those present. The blind-fold hunters were run off under unusual conditions, drew quite a lot of interest from other spectators and a few picknickers and a few people. As you can well imagine, there were some unusual obstacles.

However, on 42BN emerged as champion of the field and was awarded a prize given by John 4FP, who, a champion himself, had retired from the game. Mention must be made of the excellent Chord and drum accompaniment by John (time roughly 8 p.m.) and I must confess that I have never seen such an energetic performance before.

We had the excellent services of Alan 42BF and his piano-accompaniment and many were the songs that we sang around the fire that night. The food was excellent, and I ate the small of hamburgers and steak on the grill brought forth many an appreciative murmur. Wins as chef, surpassed himself, in fact it was a triumph for him.

Thanks, go to all the ladies who came and I doubt if this is the right expression! "to a woman" done up their sleeves and "pitched in" to help out. It was like a team effort. For a job done up as his stonks, I, myself, would like to have another thimble in the hand. I think I shall be back in the future that on behalf of everyone who matered.

A t our last general meeting, Rick AVL gave a lecture which went a long way towards resolving the many problems that beset the average Ham when it comes to erecting his own antenna system. He pointed out the importance of bracing and giving a 80-ft. mast made whole job look like a child's play. Rick, who is a rigger after the lecture one can say he was a rigger before. For even so, we must admit that the boys dreamed up. In fact, none of them who hitherto had thought that the erection of a suitable mast to take a 12 element beam would be a simple matter. It was, however, an improbability, because of the unusual geography of his allotment, had his problem been "lifted from his shoulders" by an uncommonly experienced ham, the various problems suggested by Rick A valuable lesson to ERP

In mind for us. Many thanks Rick, for the much appreciated and informative lecture.

The next general meeting will be the Annual General Meeting and the present officers, bearers, will have a very busy day in the office. Many of these "will'n' boys" have been serving continuously for many years and some have been in the service of the Society since 1948 or 1949—so long now that even he is not altogether sure! The "back" of being a member of the Society is held in awe, but all those who have been in the office for a long time of course who get a little more used to it.

After all, Council merely discusses all the business of the Society and then gives sensible answers to suit the organisation of this Division as a whole. So what about it have? Well, it is up to you to press what will have been your own business. It is all yours, had our Annual Dinner. It is all yours, know by now, falls on the Saturday night after the Annual General Meeting. There will

Stan 48A informed us that the last examination for the A.O.C.P. was, according to the students who sat, rather searching in nature and to date the boys are anxiously awaiting the results. Good luck, boys, and don't let the papers get you down if you strike a tough one that may pull your percentage down, just get stuck into it. You'll get there!

As this is more or less the end of our financial year and there will more than likely be new faces on Council, I think that we should make a determined effort, each and every member, to further the principles of Amateur Radio and more specifically, put them into practice in our Division by loyal support and active participation in Institute activities.

MARYBOROUGH

Grahame 4DJ is now interested in High-C. Yes he is now on a coastal ship and away half the time. Has built a converter for 6 mx (xtal job) and is getting a rig ready. Noel from Scarsness is now 4ZBN and is also due to appear on six, using a four-stage rig with an 815 final.

Arch 4CB reports hearing many JA stations on his t.v. receiver. Worked a V83 on 10 mx for a new one. 4BG finished his grid dipper, so it looks like a beam check coming up. Keith Avery, ex-4KG, made a brief appearance in the old town. Is on transfer to Malaya, so look out for Keith under a V83 call.

TOWNSVILLE

February meeting of the T.A.R.C. was well attended and after usual business was disposed the members settled down to discuss their troubles and asked for information from the rest of the gang. Ted 4KJ came up with a point of view he lost an in the modulator because of an open circuit in the oil filled bypass condenser. 4MF and 4PF are being troubled with parasites and now all OK, but fingers permanently crossed. 4HW complaining of too high a current at resonance unloaded and requires better Q in the coil.

Nine members have sent in their subs to the W.I.A. Far besides belonging to the local club. The boys are having a hard time in classes being run by the R.A.A.F. and look like this time next year our ranks will be swelled with chaps with brand new tickets. The more the merrier, will get at least a local rag chew when conditions are poor. That reminds me, all hands seem very erratic and nervous. Has come up to expectation in the 1.6.V.

Eddie 4WH, our Secretary, again goes to hospital for further operations while this is being read by his many friends. Ted 4EJ leaving this month for Sydney to have his eye attended to. He certainly suffers at times; good luck with it Ted.

Nothing much has been heard of the Z boys since 14c. Mc. The two attended last meeting. John ADD still away in Sydney on holidays. Speaking of holidays, who blew in last week but Harry WHO from Rabaul in brand new car, all the way overland from Sydney. WAS trapped by the flood waters south of Mackay and lost a few inches in the girth. Must have been the worry of flooded creeks, etc. Had his wife and family with him; didn't stop long as he was anxious to make Cairns before dark.

Claude 4UX been busy building a mobile outfit to take on holidays when he leaves for the south at the end of March. Has been putting out f.b. signals on flea power with it too. Claude also an expert on prose and making up verse whilst talking over the mike.

Rasil 42W is a very busy man these days, studying algebra. Anything to do with two pi and peas is up his alley. Harry 42P has been in the flood area and gave some vivid descriptions of the damage caused in his area due to floods. Fortunately, however, Harry did not suffer any loss although waters were very close. Vic 4BJ back from car holiday to Melbourne, became interested there in *xy* but has not

SOUTH AUSTRALIA

The Annual General Meeting of members, the usual monthly meeting and the final kerkbald v.h.f. group gathering all took place, in the order, at our last get-together.

The attendance was good, the debates lively and general interest displayed was pleasing to see, for the President was in good form and nothing put up to him went unanswered or in any way upset his usual calm approach.

John gave us his report, which was a usual one. It was complete, but short and to the point without losing any of its value, and covered everything from numerical strength, through finances, committees, specific and general activities, and future plans. He also stated that there was no intention of increasing subscriptions.

Our membership now reaches 400 (including 233 full members, 152 associates, and 15 new ones at that meeting), the growth being due to the fact that we have a great credit for this must go to Norm Caltman for his energy in this regard and to the class of instructors who have coached the new-

Finances continue to remain healthy, in spite of rising costs all around, a great measure of credit for this is due to Treasurer Jim SFC who has watched that side of things for years with efficiency. Unfortunately, Jim was not present to hear the President giving his praises nor to hear Doc SMD read the financial report. The confidence placed in Jim as Treasurer was reflected in the ballot for Council held later, wherein he topped the poll.

Secretary Brian SCA came in for his share of appreciation, and it was somewhat to his humble expression and downcast glance when words of commendation were being expressed. He has done a magnificent job as Secretary in a term of increasing membership, conventions, sputniks, W.I.C.E.N. organizing, and so on. And him some time where he retired whilst the question of an honorarium was being discussed.

The Federal Convention was mentioned, same being attended by Gordon SXU as Councilor with Rex SDO as observer. Rex has since been appointed Federal Councilor, and later in the monthly meeting took up the Federal matter in a way that indicated not much will be past him. We have always had good Federal representation, Gordon did a great job there and Rex is a worthy successor.

John then reported on the operation of the Advisory Committee and the time they voluntarily contributed to our benefit, on the SW weekly broadcast conducted by Gordon SXU as equipment officer, disposals committee, T.V.I. Committee, and the programme organizers, all of whom had assisted in the running of a successful year, special mention was made of Jack BTJ for his work on the Federal and the volume of traffic he had handled. QSL Officer it was stated had handled 20,000 QSL cards for the year.

First Divisional meeting for 1953

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3 x 5 x 1	11/2
2 x 5 x 2	12/10
3 x 6 x 1	21/10
3 x 3 x 1	11/7
3 x 3 x 2	17/10
4 x 3 x 1	21/10
4 x 3 x 2	11/7
4 x 3 x 3	17/10
5 x 2 x 1	21/10
6 x 3 x 1	15/10
6 x 2 x 2	22/10
6 x 2 x 3	22/4

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